

CLAIMS

1. A method for producing an antibody that recognizes a target antigen, wherein the method comprises the steps of:

5 i) immunizing a non-human animal that has immunotolerance to a background antigen comprised in an immunogen, wherein the immunogen comprises both the target antigen and the background antigen; and
ii) obtaining an antibody against the target antigen, or a gene encoding the antibody.

10 2. The method of claim 1, wherein immunotolerance is induced artificially.

15 3. The method of claim 1, wherein the non-human animal is a transgenic non-human animal.

4. A method for producing an antibody against a target antigen, wherein the method comprises the steps of:

20 (a) preparing an immunogen comprising the target antigen and a background antigen;

(b) producing a transgenic non-human animal comprising a gene expressibly encoding the background antigen;

(c) administering the immunogen of (a) to the transgenic non-human animal of (b); and

25 (d) isolating the antibody against the target antigen from the transgenic non-human animal.

30 5. The method of claim 4, wherein the immunogen is a virus particle or a part thereof.

6. The method of claim 5, wherein the virus is a baculovirus.

35 7. The method of claim 4, wherein the target antigen is a membrane protein.

8. The method of claim 6, wherein the background antigen is gp64.

9. The method of claim 4, wherein the non-human animal is a mouse.

10. An antibody that is produced by the method of any one of claims
5 1 to 9.

11. A chimeric antibody between a non-human animal and human, or a humanized antibody, produced using the antibody of claim 10.

10 12. A transgenic non-human animal, into which a gene encoding a viral envelope protein is introduced.

13. The transgenic non-human animal of claim 12, wherein the virus is a baculovirus.

15 14. The non-human animal of claim 13, wherein the viral envelope protein is gp64.

15 15. The non-human animal of claim 12, wherein the non-human animal
20 is a mouse.

16. The non-human animal of claim 12, for use in producing an antibody against an antigen comprising a viral protein.

25 17. A method for producing a non-human immunized animal, wherein the method comprises the step of producing a transgenic non-human animal into which a gene encoding a background antigen is introduced.

18. A non-human immunized animal for obtaining an antibody against
30 a target antigen comprising a background antigen, wherein the animal is produced by the method of claim 17.

19. A method for producing an antibody against PepT1, wherein the method comprises the steps of:

35 (a) preparing a baculovirus that expressibly comprises a DNA which encodes PepT1 or a fragment thereof;

- (b) infecting a host cell with the baculovirus of (a) to obtain a budding virus that expresses PepT1 or a fragment thereof;
- (c) producing a transgenic non-human animal that expressibly comprises a gene encoding a baculovirus membrane protein gp64;
- 5 (d) immunizing the transgenic non-human animal of (c) with a fraction comprising the budding virus of (b) or PepT1 or its fragment; and
- (e) recovering the antibody-recognizing PepT1 from the immunized animal.